

REMARKS

The Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-11 are pending in the present application. Claims 1-11 have been canceled, and new claims 12-18 have been added. The Examiner is respectfully requested to reconsider the rejection of the application in view of new claims 12-18 and the remarks as set forth below.

Claim for Priority

It is gratefully acknowledged that the Examiner has recognized the Applicants' claim for foreign priority based upon a foreign application. In view of the fact that Applicants' claim for priority has been acknowledged, no additional action is required from the Applicants at this time.

Drawings

The Examiner has acknowledged the acceptance of the drawings, and no further action with respect to the drawings is necessary at the present time.

Acknowledgment of Information Disclosure Statement

The Examiner has acknowledged the Information Disclosure Statement filed on March 29, 2002. An initialed copy of the PTO-1449 has been received from the Examiner. No further action is necessary at this time.

Informalities

The May 5, 2005 Office Action objected to claims 1-11 because of various informalities. It is respectfully submitted that new claims 12-18 do not include the objectionable informalities except for the alleged informality relating to “phy mode”.

The Applicants traverse the objection to the use of the term “phy mode”. It is respectfully submitted that “phy mode” is clearly defined on page 1, lines 23-25 of the application which states, “With the term “phy mode” we mean the combination of modulation and FEC (Forwarding Error Check). Each phy mode is characterized by a different throughput and a different robustness.”

When a patentee acts as his own lexicographer in defining the meaning of particular terms away from their ordinary meaning, he must clearly express that intent in the written description. See, e.g., Bell Atl. Network Servs. v. Covad Communications Group, Inc., 262 F.3d 1258, 1268 (Fed. Cir. 2001). The statement in the specification must have sufficient clarity to put one reasonably skilled in the art on notice how the inventor intended to define the term. Id.; see also Elekta Instrument S.A. v. O.U.R. Sci. Int’l, Inc., 214 F.3d 1302, 1307 (Fed. Cir. 2000) (“Absent an express intent to impart a novel meaning, claim terms take on their ordinary meaning.”); Renishaw, 158 F.3d at 1249 (“The patentee’s lexicography must, of course, appear ‘with reasonable clarity, deliberateness, and precision’ before it can affect the claim.”) (quoting In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994)); Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167, 1177-78 (Fed. Cir. 2002) (stating that the “presumption in favor of the claim term’s ordinary meaning is overcome, however, if a different meaning is clearly and deliberately set forth in the intrinsic evidence”).

The Applicant respectfully submits that the term “phy mode” as used in the specification is clearly and deliberately set forth in the specification, and that the term “phy mode” would be readily understood by those skilled in the art. The Examiner, therefore, is respectfully requested not to object to use of “phy mode” in new claims 12-18.

The Prior Art of Record

The May 5, 2005 Office Action rejected claims 1, 3, 5-6, 7, and 9-10 as anticipated by WO 99/20016 (Le-Ngoc et al) or unpatentable over WO 99/20016 in view of additional prior art. It is respectfully submitted that claims 12-18 are patentable over WO 99/20016 or the prior art of record. The Office Action indicated that cancelled claims 2, 4, 8 and 11 were patentable over the prior art of record.

It is respectfully that new claim 12 is patentable over WO 99/20016, because WO 99/20016 does not disclose the feature of bypassing the upper threshold (See Fig.2, point B of the present application) of the hysteresis cycle, by implementing the switch following the dashed arrow from a more robust and less efficient phy mode to a less robust and more efficient phy mode. In fact, looking at the Fig.6 of WO 99/20016, which is reproduced below:

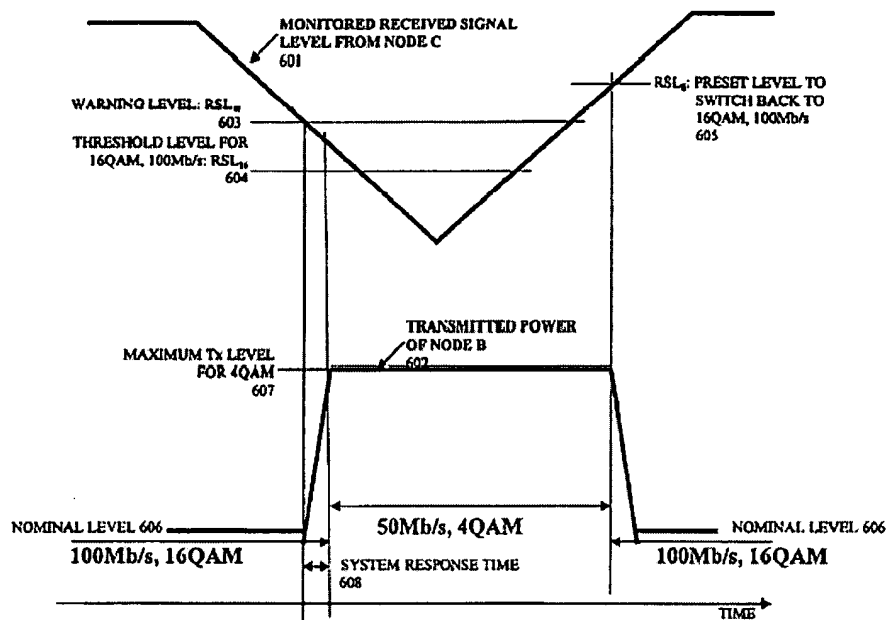


Fig. 6

A phy mode switch which allegedly corresponds to the one of the present invention, takes place from the upper threshold level RSL_s (605) for the current phy mode and not from a level intermediate to the lower and upper switching thresholds, as in the Applicants' new claim 12.

Another distinguishing feature of claim 12 concerns the definition of the reference levels associated with the phy modes. Claim 12 is different from WO 99/20016, where these reference power levels are defined at the transmission side, namely at the output of the peripheral power amplifier. Claim 12, however, defines corresponding reference levels or "working points" at the reception master side. There is a substantial difference

between the two definitions. More precisely, the “working points” as defined in claim 12, and operatively in the dependent claims 13 to 16, are independent of the uncertain propagation conditions of the link and, contrary to WO 99/20016, the master is enabled to perform ATPC without any knowledge of the real transmitted power. Many signalling messages and mathematical computations are saved. In the specific case recited in the “checking” step of claim 12, the master acquires knowledge of the “available” transmission power of the peripheral, but a similar feature is not described in WO 99/20016.

Since each phy mode of claim 12 includes a “working point” placed between the lower and an the upper switching thresholds, it follows that there are two opportunities open for the master station, namely:

1. Stabilizing the “working point”, at the first working point, and then switching to the adjacent less robust phy mode on the condition recited in the “checking” step of claim 12.
2. Let the peripheral station transmit with the maximum power of the current phy mode until point B is reached and then switch to the adjacent less robust phy mode, as in the prior art disclosed in WO 99/20016.

This means that the master is put in the position of selecting between the opportunity of either follow the normal hysteresis cycle E-B-C-D-E of Fig. 2 of the present application or the modified cycle E-C-D-E of Fig. 2. Looking at fig.6 of WO 99/20016, we see that the warning level RSL_W (603) is placed between the lower threshold RSL_{16} (604) and the upper threshold RSL_S (605) but, despite the apparent

similarity with a “working point”, it pursues different purposes and is managed in quite different way. In particular: a) the warning level RSL_W is not a nominal reference level for a phy mode, in fact it is the same for the two adjacent phy modes, contrary to the working points that are different; b) as a consequence of the preceding point, the warning level RSL_W cannot be taken as starting point to modify the hysteresis cycle, merely because the ATPC is not involved to stabilize it.

New claim 12 solves the problem of making more efficient a hysteresis cycle which has to be executed for switching back and forth between adjacent phy modes. The problem addressed by the new claim 12 is not of a secondary importance because, due to the presence of the hysteresis cycle, the quality of the transmission is not completely optimised. In fact, according to the prior art, during all the time before the upper switching threshold is reached, the peripheral station transmits with the maximum power permitted to the current phy mode, originating interference consequently.

The present invention suggests a way for reducing the interferences and maximizing the coverage and the throughput of the link when the adaptive phy mode technique is used together with ATPC. The idea of the solution embodied in claim 12 is that to supply the master station with the knowledge of the power not currently used but available in the peripheral station, so that the master can employ this information to keep the received power close to the working point of the used phy mode until the condition to switch towards a phy mode characterized by a higher working point is met. This embodiment is not inferable from WO 99/20016. Furthermore, the Applicant wishes to point out that the particular combination of features claimed in the new claim

12 is apparently not obtainable by combining WO 99/20016 with any other of the cited prior art references. The only document which clearly describes a hysteresis cycle and the use of reference levels and switching thresholds appears to be WO 99/20016.

Accordingly, it is respectfully submitted that new claim 12 and dependent claims 13-18 are patentable over the cited prior art.

Conclusion


In view of the above amendments and remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard J. McGrath (Reg. No. 29,195) at the telephone number of (703) 205-8000, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #39,491
Michael K. Mutter, #29,680


MKM/RJM/kmr
3606-0119P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000